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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,190	02/28/2002	Thorsten Mathee	01055-2	1519
7590			EXAMINER	
01/05/2004			LUND, JEFFRIE ROBERT	
Michele J. Young Salter & Michaelson 321 South Main Street Providence, RI 02903			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 01/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,190

Applicant(s)

MATTHEE ET AL.

Examiner

Jeffrie R. Lund

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-11 and 16-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-19 is/are allowed.
- 6) ☒ Claim(s) 1-4, 16 and 20-42 is/are rejected.
- 7) ☒ Claim(s) 6-11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9/16/02.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 16 has the same limitations as found in claim 1.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 20, 21, and 25-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 20 and 21 require that the filaments be made of a high melting point metal or molybdenum. The specification is silent in regard to what the filaments are made of, and it does not teach that the filaments are made of a high melting point metal or molybdenum. The specification teaches that the filament holders are made of a high melting point metal or molybdenum.

Claims 25 claims "filament holders substantially conform to an exterior surface of the substrate". The specification discloses that the filaments substantially conform to an exterior surface, not the filament holders.

Claim 41 requires both "arcuate filament holders" and "radiation screen supported on at least one of the filament holders"; the specification does not teach this combination. The specification teaches two embodiments, the first embodiment, found in figures 1 and 2, has arcuate filament holders and no radiation shield; and the second embodiment, found in figure 3, does not have arcuate filament holders but does have a radiation shield. The specification does not teach the combination of the two embodiments.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 35 recites the limitation "the complex substrate" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 16, and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanda et al, JP 04-132682 A.

Kanda et al teaches a coating apparatus that has an arrangement of filaments 1 constructed and arranged to surround the outer surface of a complex substrate 3. The distance between the filaments and the outer surface of the substrate remains substantially the same. The filament 1 is suspended from a filament holder 2. (Abstract and figures 1 and 3.)

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 25-38, 41, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanda et al in view of Herlinger et al, US Patent 5,833,753.

Kanda et al was discussed above.

Kanda et al differs from the present invention in that Kanda et al does not teach clamping means, that the filaments are longer than the space between the holders, one holder is a short circuiting ring, a radiation screen, the shape of the holder, or the distance between the filaments and the surface of the substrate.

Herlinger et al teaches holders having clamping means 130, 140, that the filaments 120 are longer than the space between the holders, and that one holder is a short circuiting ring. (Figures)

Radiation screens are well known in the art and are used to improve the thermal efficiency of the reactor.

The specific shape of the holders and the placement of the filaments is an optimization of the design of the reactor, and well within the skill level of one of ordinary skill in the art.

The motivation for using the filament holders and clamping means of Herlinger et al in the apparatus of Kanda et al is to provide a filament holder as required by Kanda et al but only generically described.

The motivation for adding a radiation shield to the apparatus of Kanda et al is to improve the thermal efficiency of the reactor.

The motivation for making the holders arcuate and spacing the filaments 1 to 30 mm is to optimize the shape and spacing of the holder and filaments. Furthermore, it has been held that: a change in shape is a matter of choice, which a person of ordinary skill in the art would have found obvious (See *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) MPEP 2144.04(d)); and in *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), by the Federal Circuit that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. (Also see MPEP 2144.04 (d))

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filament holders and clamping means of Herlinger et al in the apparatus of Kanda et al and to optimize the shape of the holders and spacing of the filaments.

Allowable Subject Matter

10. Claims 17-19 are allowed.

11. Claims 39 and 40 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, first paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. Claims 6-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. The following is a statement of reasons for the indication of allowable subject matter: the apparatus as claimed in claim 6, specifically, an arrangement of filaments constructed and arranged to at least partially surround and conform to the outer surface of the complex substrate, wherein the distance between the filaments and the outer surface of the substrate remains substantially the same, and the filaments are clamped at both ends thereof in holders arranged parallel with each other and a curvature is formed by the dead weight of the filaments; the apparatus as claimed in claim 11, specifically, the filaments are arranged in two rows in concentric circles, so as to form an inner row of filaments and an outer row of filaments, the filaments of the inner row being arranged respectively in gaps between projections of the substrate and the

filaments of the outer row being arranged proximate outer ends of the projections, in gaps between filaments in the inner row of filaments; the apparatus as claimed in claim 17, specifically, a number of filaments being clamped between said filament retainers of each of said pair of holders, said filaments having a length which is greater than said predetermined distance, such that said filaments form a trough for receiving the substrate to be coated were not found in or suggested in the art.

14. The examiner notes that claim 42 would be allowable if it were amended to replace "suspended" with a "curvature", "curved" or "hung". Suspended does not necessarily mean curved. The filaments of Herlinger et al and Kanda et al both are suspended. The allowable subject matter includes the curved filaments that are the same distance from each other and the substrate, and surround and conform to the outer surface of the substrate.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited art teaches the technological background of the invention.

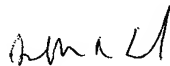
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Thursday (6:30 am-6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (571) 272-1439. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jeffrie R. Lund
Primary Examiner
Art Unit 1763

JRL
December 13, 2003